1.0 INTRODUCTION

The Internet is a worldwide network of computers, software and human energy. This introduction is a starting point for beginning users of the Internet.

1.1 The Internet

The Internet is a network of interconnecting networks. It allows a single user to access many computers and many computer resources. In its present form, it uses a suite of protocols and software applications to access information from all over the world with point-and-click ease. But it was not always so easy.

1.2 Brief History

The Internet began in 1969 with a Department of Defense (DoD) experiment. At that time the United States and Soviet Union had both built up powerful nuclear capabilities. The U.S. realized that military controls and information located at a single site or a few primary sites could easily be incapacitated by a nuclear strike from the Soviets. The decision was made to connect the military and various universities across the country. This resulted in a system that could continue to function even if a site failed or was destroyed. In 1975 the DoD took control of the resulting net and developed it further. The outcome of this development was a standard or protocol called Transmission Control Protocol/Internet Protocol (TCP/IP).

1.3 Addressing

The present Internet is a dynamic entity that changes to address needs and utilize opportunities. No one person or group owns the Internet or controls it. However, someone must establish standards so that everyone on the net is "speaking the same language." The authority rests with a group of volunteers known as the Internet Society. Computer Internet address are obtained by sending electronic mail to Hostmaster@INTERNIC.NET.   There are two types of addresses. The IP address is a series of numbers separated by dots (periods). A typical address looks like this:

> 128.40.5.1

It is read as:

> one two eight, dot, four zero, dot, five, dot, one

An IP address identifies a computer on the Internet. Every IP address must be unique to identify the computer. Think of it as an individual locator similar to your home address.

The numbers in an IP address are difficult to remembe and often when a computer moves from one physical site to another the IP address changes. Errors in writing or typing IP addresses are difficult to notice. Last, there is no logical way to guess an IP address if you want to communicate with a particular computer but do not have its address.

These difficulties lead to the development of the Domain Name Service. A Domain Name is an alphanumeric name that resembles English. It consists of two or more alphanumeric fields separated by a dot. The letters A through Z are used and the numerals 0 through 9 are used. No other special characters may be used. An example of a domain name is:

dfrc.nasa.gov

A computer may have two or more names or aliases but, in general, it has only one IP address. A computer name and domain name taken together is called the host name. Host names are not case sensitive. They can be typed in uper case or lower case and indicate the same computer on the Internet. Examples of host names are:

www.dfrc.nasa.gov

news.dfrc.nasa.gov

cs2.dfrc.nasa.gov

These host names are aliases for a single computer whose IP address is:

130.134.64.17

This computer is the World Wide Web (WWW) server at the Dryden Flight Research Center. Most people find it much easier to remember the host or domain name as opposed to the IP address.

As with IP addresses, each domain name must be unique. Of course there are Domain Name Servers (DNS). These are computers that keep track of Domain Names and IP addresses and link those together each time messages travel through the network. Domain Names are developed by organizational affiliation as well as geographic region.

The elements of the *dfrc.nasa.gov* portion of the Dryden WWW server host name stands for:

dfrc--Dryden Flight Research Center

nasa--National Aeronautics and Space Administration

gov--Government

If the user is aware of NASA Centers other than Dryden (such as NASA Headquarters or the Marshall Space Flight Center), the user could probably guess the host name for the WWW server at any of the sites:

www.hq.nasa.gov   --NASA Headquarters WWW server

www.msfc.nasa.gov --NASA Marshall Space Flight Center WWW server

Other common abbreviations used in domain names are:

```
k12     -- K through 12 schools
com     -- commercial organization
org     -- organization
edu     -- education facilities, generally colleges and universities
int     -- special international organizations
gov     -- government organizations
net     --network of organizations running networks
wy (etc)-- indicate states
uk (etc)-- indicate countries
```

Thus, a high school (which would use the *k12* abbreviation in its designation), might have a domain name of

> www.svhs.silver.*k12*.ca.us

1.4 Protocol

A protocol is a communication standard. TCP/IP is one of the protocols that establishes how information will be packeted when it is transferred from one computer to the next over the Internet. It designates the length of packets (about 1,000 characters) as well as standards of headers (at the beginning of the message to indicate where it is going). IP works in conjunction with Transmission Control Protocol (TCP). TCP keeps track of the IP messages once they are sent.

TCP/IP allows different types of computers to communicate. Macs, PCs, and Unix machines can all use TCP/IP on the Internet. There are other protocols such as telnet and FTP and several others.

1.5 Use Statistics

The Internet allows for standard communication between millions of computers. The following are estimates of use as of July 1995:

```
15,000,000    Users
 2,500,000    Computers
    30,000    Networks
       200    Countries
```

The types of use are the following:

```
55%    Commercial Sites
35%    Educational Sites
10%    Government Sites
```

With a 10% increase in number of users every month.

2.0 THE WORLD WIDE WEB (WWW)

The World Wide Web (WWW) began in 1988 at CERN (European Laboratory for Particle Physics) in Switzerland. Tim Berner-Lee is credited with the concept of the WWW. He intended to create a wide-area hypermedia information retrieval system (referred to as "browsers") which gave access to a large universe of documents. The system was originally aimed at the High Energy Physics community, but it has spread to other areas.

The WWW is directly responsible for the explosive use of the Internet. The browsers used on the Web make searching for and retrieving information as simple as point and click.The user's computer may use a graphical browser such as Netscape. The browser connects to a remote computer to access the information. The user interacts with hypertext which acts as a pointer, linking one resource to another. The links work by referencing the documents through a Uniform Resource Locator (URL--described below in section 2.2). Even if the user does not see the URL through the browser, it is listed in the source document.

The following image shows the Dryden home page as seen through a graphic browser (Netscape) and is an example of the combination of text and graphical information that is available on the WWW.
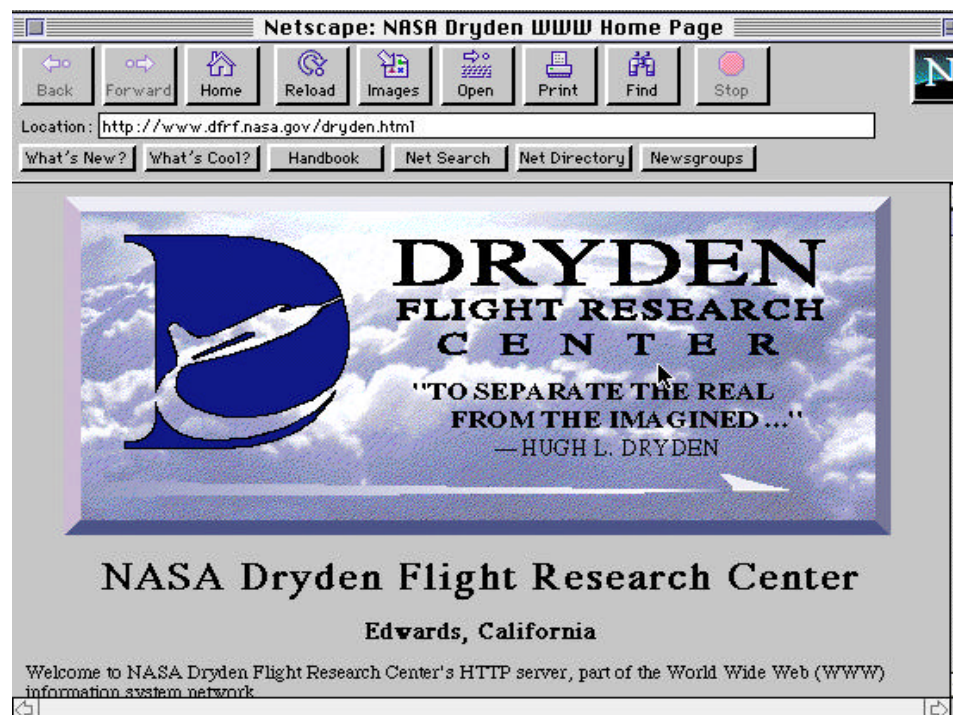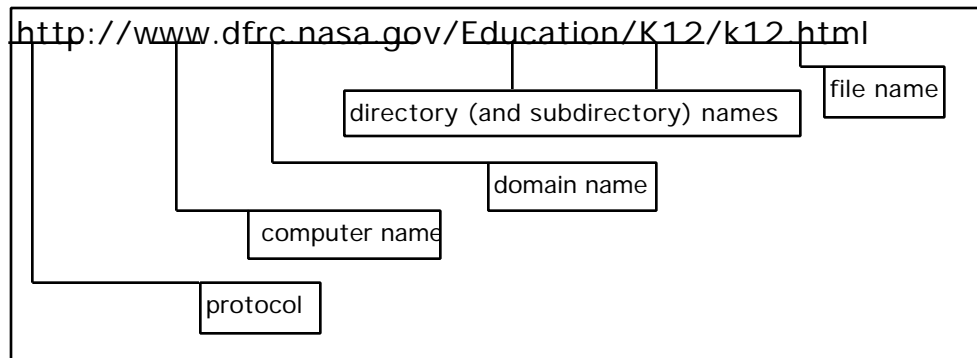

Dryden Home Page
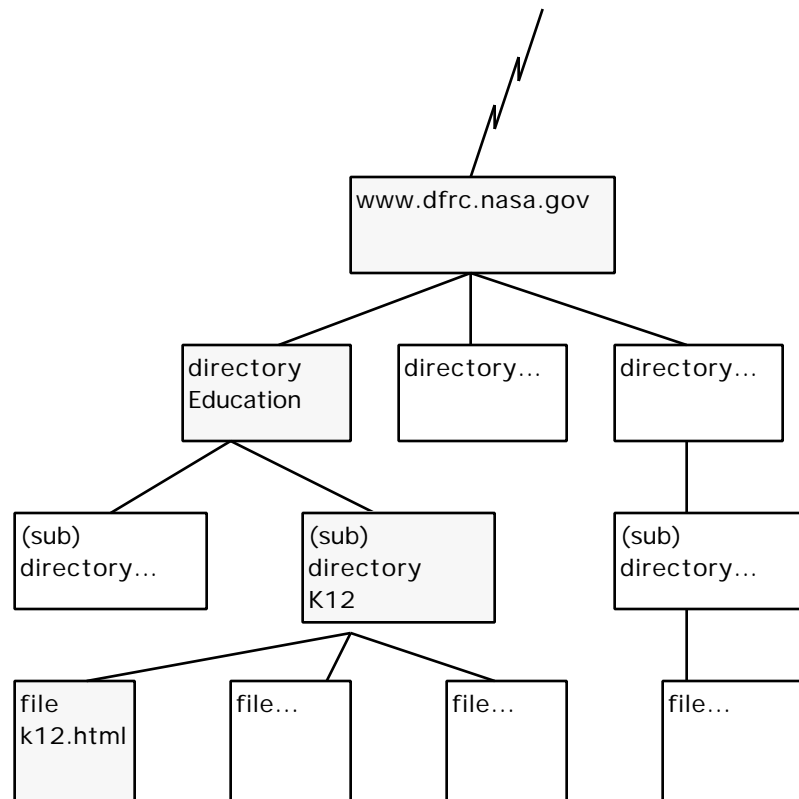
2.1 HyperText Transfer Protocol (http)

The primary protocol used on the WWW to communicate and exchange information is HyperText Transfer Protocol (http). Tim Berners-Lee states "A feature of http is that the client sends a list of the representations it understands along with its request, and the server can then ensure that it replies in a suitable way."

2.2 Uniform Resource Locator (URL)

Computer systems are accessed by using a Uniform Resource Locator (URL). A URL specifies a protocol and a computer and, potentially, a directory name and a file name. The elements of a URL are shown in the figure below.

```
http://www.dfrc.nasa.gov/Education/K12/k12.html
```
file name

directory (and subdirectory) names

domain name

computer name

protocol

It is important to note that while computer names are not case sensitive, the directory, subdirectory and file names generally are.

```
                                              /
                                            /
                                          /
                                        /
                           ┌────────────────────┐
                           │ www.dfrc.nasa.gov  │
                           └────────────────────┘

        ┌──────────────┐   ┌──────────────┐   ┌──────────────┐
        │ directory    │   │ directory... │   │ directory... │
        │ Education    │   │              │   │              │
        └──────────────┘   └──────────────┘   └──────────────┘

   ┌──────────────┐   ┌──────────────┐            ┌──────────────┐
   │ (sub)        │   │ (sub)        │            │ (sub)        │
   │ directory... │   │ directory    │            │ directory... │
   │              │   │ K12          │            │              │
   └──────────────┘   └──────────────┘            └──────────────┘

   ┌──────────┐   ┌──────────┐   ┌──────────┐   ┌──────────┐
   │ file     │   │ file...  │   │ file...  │   │ file...  │
   │ k12.html │   │          │   │          │   │          │
   └──────────┘   └──────────┘   └──────────┘   └──────────┘
```

This graphic represents the directory and file structure for the
WWW server at Dryden. It shows the path to the k12.html file.

2.3 Browsers

Browsers are software that run on the user's computer that enable the user to view Hypertext Markup Language (HTML). The hypertext acts as a pointer, to link one resource to another. There are two types of browsers--graphical browsers and text browsers.

2.3.1 Graphical Browsers

Graphical browsers give the user access to files with point and click ease.   Graphical browsers support full color graphics, sound, movies, text and links. HTML, hyperlinks, and use of images are what make this system so easy to use and pleasant to view. These topics are discussed in the section 8.0 below.

There are several types of graphical browsers available. Each of them gives the user a slightly different view of the HTML document. While they all show the text of the document, it may be formatted differently with different browsers.

Mosaic (see the Mosaic home page image below) was developed in 1993 by the National Center for Supercomputing Application (NCSA) at the University of Supercomputing Applications (NCSA), at the University of Illinois in Urbana-Champaign. The project was an effort to create a consistent and easy-to-use interface to hypertext documents available on the WWW. Mosaic software is free and available for a variety of operating systems including Macintosh, Windows, and Xwindows. Mosaic software is available at:

ftp.ncsa.uiuc.edu
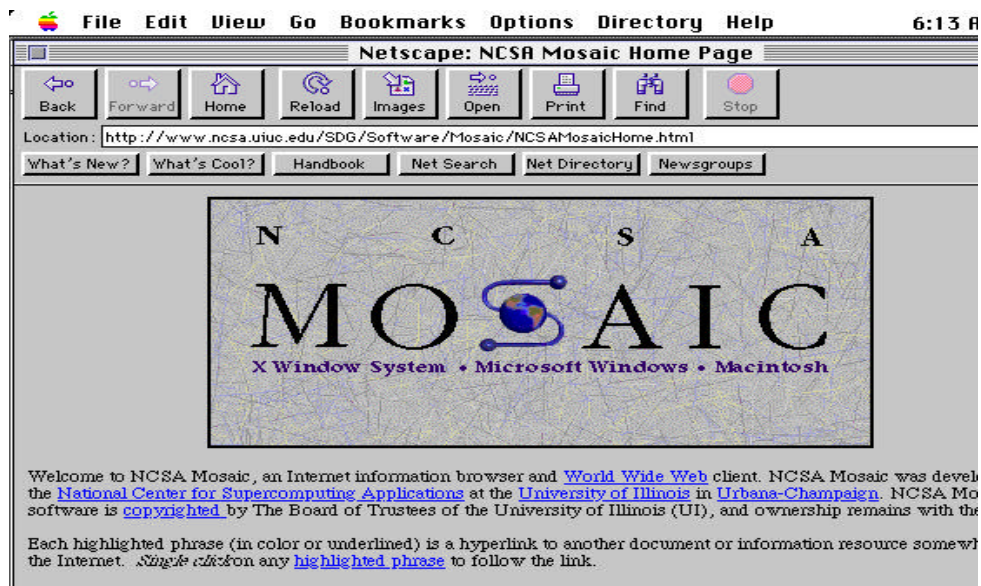
Mosaic homepage

Netscape was developed in 1994 by a team of computer scientists that left NCSA to form a commercial enterprise known as Netscape Communication, Inc. The product is known as Netscape Navigator. It is the most highly developed browser available at this writing. Netscape is available at:

ftp.netscape.com

Netscape Home Page

For the purposes of this discussion Netscape is used as the standard graphical browser.

Graphical browsers require TCP/IP software. They also require a SLIP or PPP (section 10) dial-up connection or a network connection to the Internet. To make graphical browsers practical the user also needs a reasonably fast connection. A modem speed of 14.4 Kbaud is considered minimum for those users with dial-up Internet access. If the user does not have the resources needed to use a graphical browser then a text based browser can be used instead.

2.3.2 Text Browsers

Text browsers view HTML documents on the WWW. However, they only display the text portion of the document. The graphics, sounds, etc. are not available with a text browser. However, text browsers do run with a very simple dial-up connection and they display information fast enough to make them valuable for users with slow modems.

Compare the following text only illustration of Dryden's home page with the previous image of that page (page 4) through a graphical browser. The information is the same even though the appearance is very different.
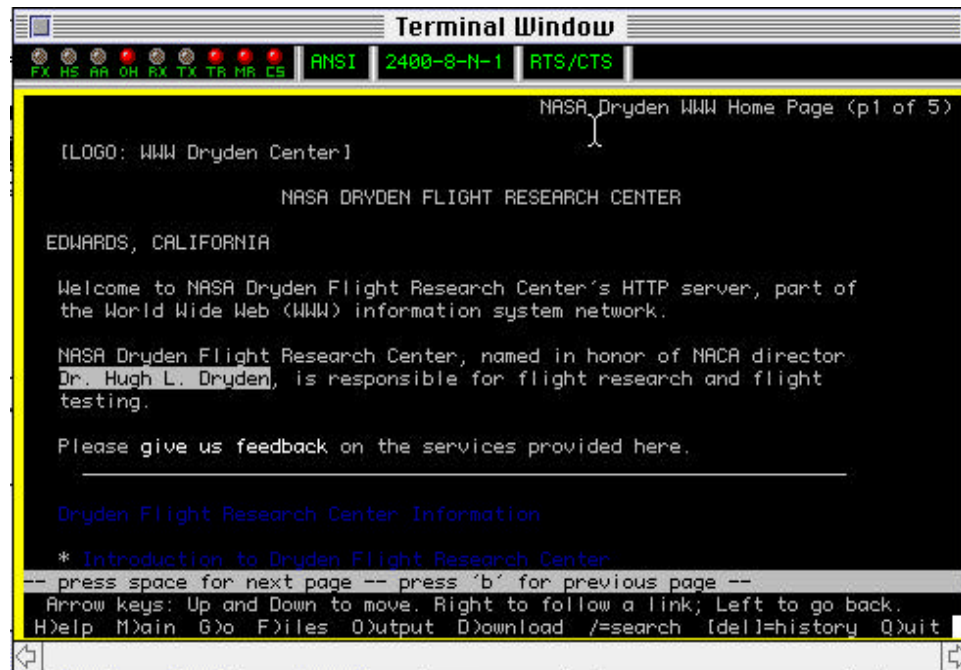
Dryden Home Page viewed through the LYNX text browser

The WWW and graphical browsers are newest and most exciting parts of the Internet. The Web and browsers combined with search engines result in a powerful, easy to use research tool for users.

3.0 SEARCH ENGINES

The WWW is so easy to use because it accesses sites with searching software. These sites with searching software are called search engines. They allow the user to locate files based either on a submitted search term or based on selection of topic headings and subheadings until the file is located. URLs for some search engines are:

http://www.yahoo.com/
Yahoo - a topic heading search engine
also has a submitted search term engine

http://fuzine.mt.cs.cmu.edu/mlm/lycos-home.html
Lycos - submitted term search engine

http://www.webcrawler.com
WebCrawler - submitted term search engine
sort documents according to their match to the
submitted term

http://www.cs.colorado.edu/home/mcbryan/www.html
World Wide Web Worm

http://www.infoseek.com
InfoSeek

There are many other search engines. It is important for a user to be familiar with several search engines. Not all search engines access the same files. Therefore, the user may need to try several search engines to find the files needed. It is also often helpful for a user to rephrase a term if the first search was not productive. If the user can not find the information he or she expects to find using a search engine, the user may want to try again at a later date, because the databases accessed by the search engines are constantly being updated.

A menu based search engine, such as Yahoo, is often more helpful when the user is not sure about what he or she is specifically looking for. A submitted term search engine, such as Webcrawler, is often faster when the user is fairly specific about what they are looking for.

The following illustrations indicate at a glance the "look" of some of the search engines. Each of them is an excellent tool. The choice of which to use may be personal preference or a function of which is available at the time of search. Occasionally a search engine is busy and cannot process a request.
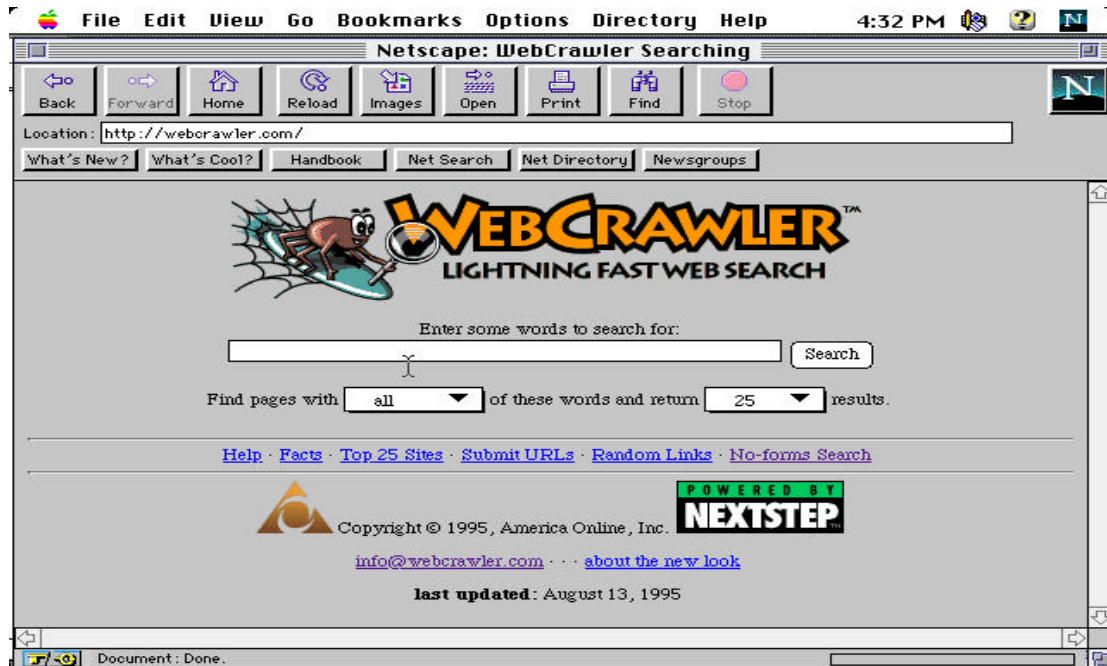
WebCrawler Search Page
Copyright 1995 America Online, Inc. All Rights Reserved

Yahoo Search Home Page
Yahoo! Corporation

4.0 FILE TRANSFER PROTOCOL (ftp)

File Transfer Protocol (ftp) is a basic protocol that defines a method of transfering files between computers on the Internet. There are millions of ftp files stored on millions of computers. Many software archives are available as ftp sites. The Netscape browser supports ftp.

There are a number of software programs that work with ftp to provide a point and click interface. Fetch is a good one. These programs allow you to connect to an ftp site using the domain name, a login name, and a password. They allow you to get (receive) files with the click of a button as well as to put (send) files. Anarchie for Macintosh is illustrated below.
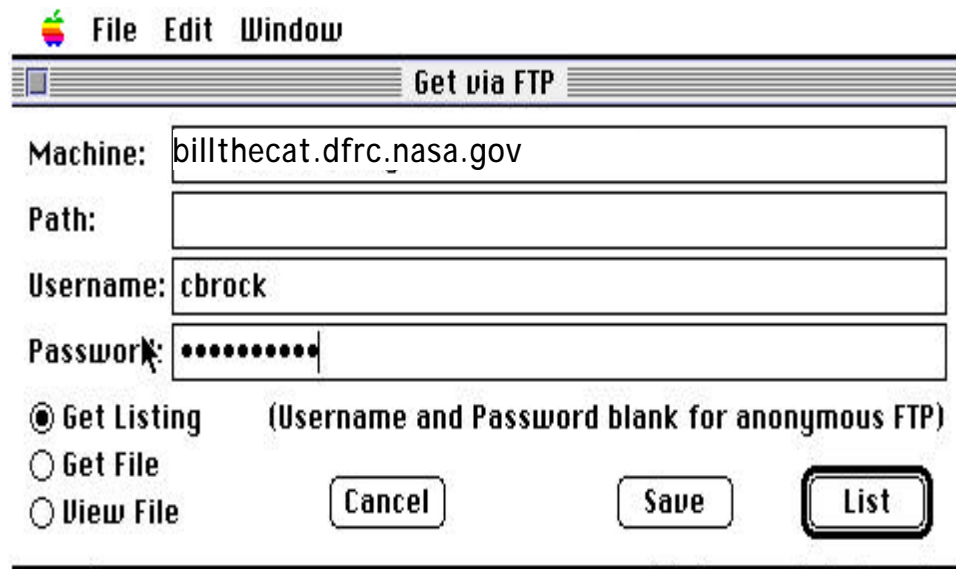
The above illustration shows the login window for Anarchie.

Ftp only allows the transfer of files. Files cannot be read or manipulated until they are transferred to the user's computer. The types of files that can be accessed include text, image, computer applications, sounds, and movies. In order to use these files you must also have the necessary software on your computer. For example, text documents must be viewed with a text editor. However, if you want to display an image or hear sounds that you have transferred, you may need additional software. Also, many files are in a compressed form so that they take up less space on the host machine and on the Internet. In order to use them you must have decompression software on your computer.

Ftp is easy to use with a good software interface. There are often "mirror" sites for popular files. That is, more than one machine will "serve" copies of the file. The disadvantage of ftp is that you need to know where the files are in advance. You must understand the directory/folder and file structure of the host computer.
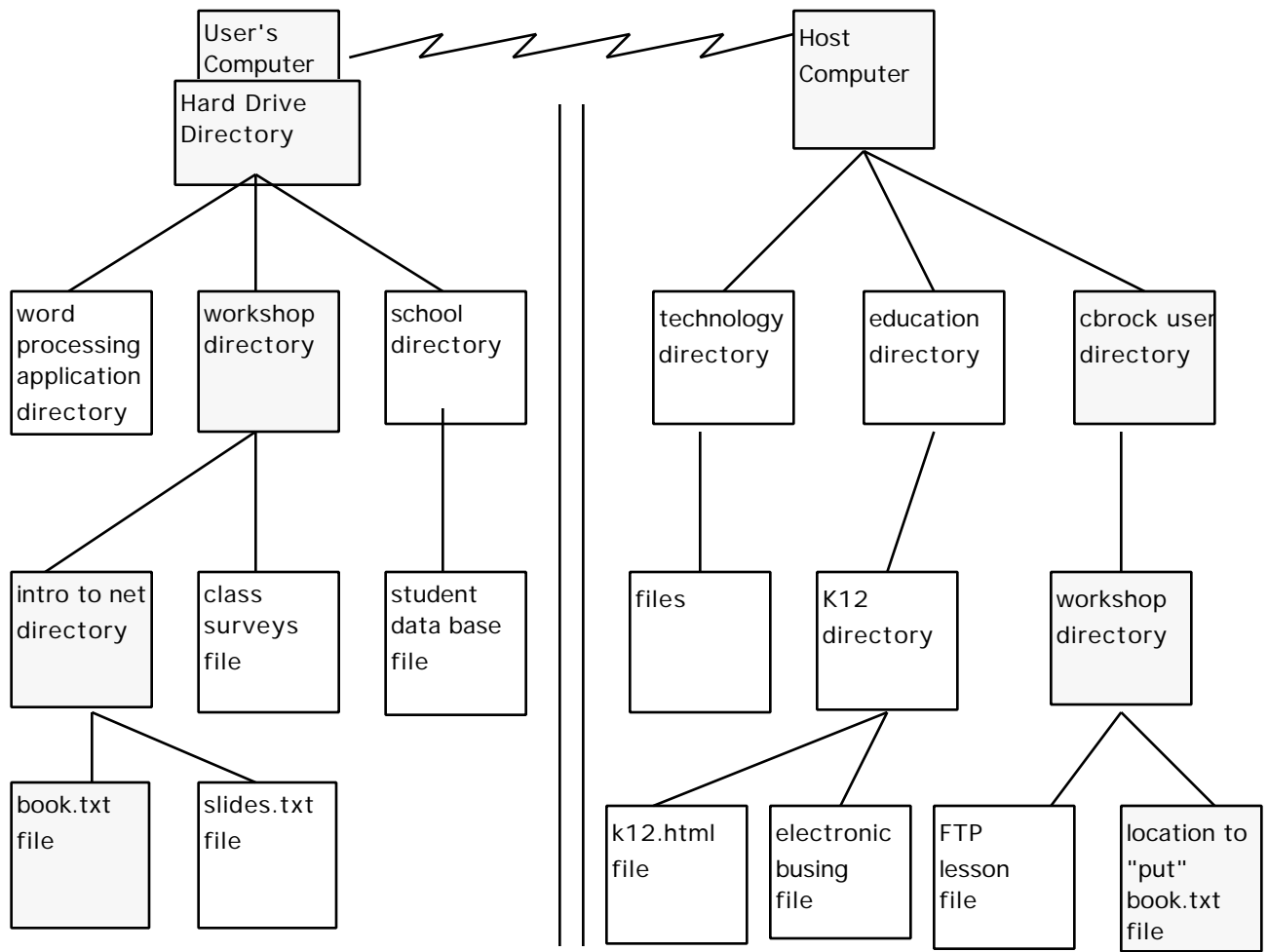
This graphic represents the directory structure of a user computer and a host computer. It indicates the path that the user followed to transfer this Internet Handbook to the NASA Dryden Flight Research Center host computer.

Internet users must become familiar with directory structure on their computer and on any host computer that is accessed. When a user uploads (put) a file onto a remote computer, the user obviously needs to know where the file is located on the local computer. It is equally as important to know where the file belongs on the host machine. Of course the same concepts hold true when the user downloads (get) a file from the remote host. The user must be able to navigate through the directory structure of the host computer to find the file. Then the user must select a directory on the local computer in which to save the file.
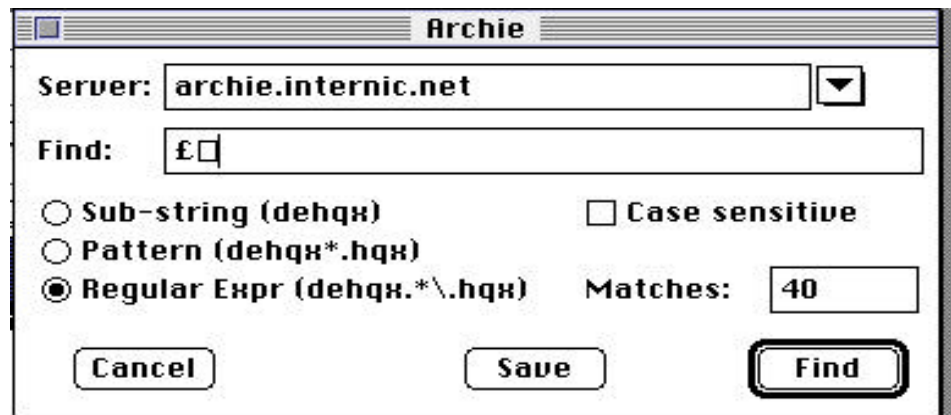
The Search Window from Anarchie for Macintosh.

Software programs similar to Anarchie are available for both Mac and PC. They make searching for ftp files very easy. Their function is similar to the search engines on the WWW.

5.0 TELNET

Telnet is similar to ftp in that the user connects to a remote system. However, telnet is interactive and ftp is not. Telnet allows the user to connect to a remote host computer from anywhere around the world. Once connected the user has access to any of the resources on the remote computer as if it were on the local machine. The local computer acts as a input/output terminal on the remote computer.

There are additional software tools that search for and/or retrieve files. The Blue NetPages document *Internet Tool Box* is a excellent quick reference regarding different tools, their purpose, and features of each. A copy of that document is included in this handbook as appendix A.

The Blue NetPages "Internet Tool Box" URL is:

> http://aldea.com/bluepages/blue.html

The *Internet Tool Box* is reproduced with permission from Aldea Communications, Inc. The complete version of NetPages can be found at local bookstores in paper format or on the World Wide Web at

> http://www.aldea.com/

6.0 ELECTRONIC MAIL (Email)

Email (electronic mail) is mail sent electronically from computer to computer. The sender can address the message to many individual readers. Email can also be used to send text files, programs, graphics, audio, video, spreadsheets, and more. These are sent as attachments to an email message.

Email and email attachments must be sent in a format useable by the recipient. Sometimes these attachments are encoded in formats such as ASCII (American Standard Code for Information Interchange) and one of several binary codes. Many word processing applications save files in a format that is unique to the application. With many world processing applications the user must select "Save As Text" at the time the file is saved if the user wants a text only file. ASCII is a standard encoding format that PC, Macintosh, and UNIX can understand.

An email address is similar to an address for a person. It is a specific pointer that indicates the computer name and the user name. An example of an email address is:

> billthecat@louie.dfrc.nasa.gov

Email is considered private communication between individual users. However, like a letter left lying around on your desk it is not secret. Other users may have access to your email messages. The system administrator of the email server does have the potential to read any and all email. Email communication is different from either spoken communication or written on paper communication.

The people at NASA Langley Research Center have written a good set-up guide for the Eudora mail software program. They have generously granted permission to reprint their guide as well as their copy of the Eudora user manual as a part of this document. The guides are included with this handbook as appendix B.

7.0 USENET NEWS

Usenet news is also personal communication. However the information comes from an individual and is sent to many people around the world. When you post a message to a Usenet discussion you do not know who will be the recipients of that message. You may find discussion regarding any subject of interest to anyone in the world. You need a software program called a newsreader to subscribe to these groups. Netscape has a built-in newsreader, but there are many others.

Messages in Usenet are organized into thousands of topical groups or "newsgroups". There are several thousand newsgroups. A user may read only or may read and contribute. A user who contributes to a newsgroup is not required to have credentials or other types of training or expertise in a topic area. Therefore, it is important for the user of newsgroups to think carefully about believing what they read.

A newsgroup can be moderated. One person receives all messages sent to the group. The moderator decides if a particular message will be posted and when it will be posted. The moderator is able to filter out inappropriate messages. Newsgroups can also be unmoderated. In this case, copies of messages are distributed to all sites without inspection or intervention by other people.

The newsgroups have a category name that gives an indication of what topics are discussed in the group. The following are some category names:

alt.	alternative
comp.	computer
misc.	miscellaneous groups - do not fit another category
news.	news about usenet
rec.	recreation
sci.	science and engineering topics
soc.	social issues, politics, culture
talk.	debates about controversial topics
k12	K - 12 schools

To access Usenet requires an account with an organization that is a Usenet site. That means it receives the Usenet postings and is able to send them to other usenet sites.

Computers that are linked to Internet do not automatically receive Usenet postings. The computer's software must be set to receive these messages from the Usenet server.

Usenet news posting are similar to bulletin board postings. The message is tacked up on the board and anyone who walks by can see it. Usenet news serves the same purpose in the electronic world.
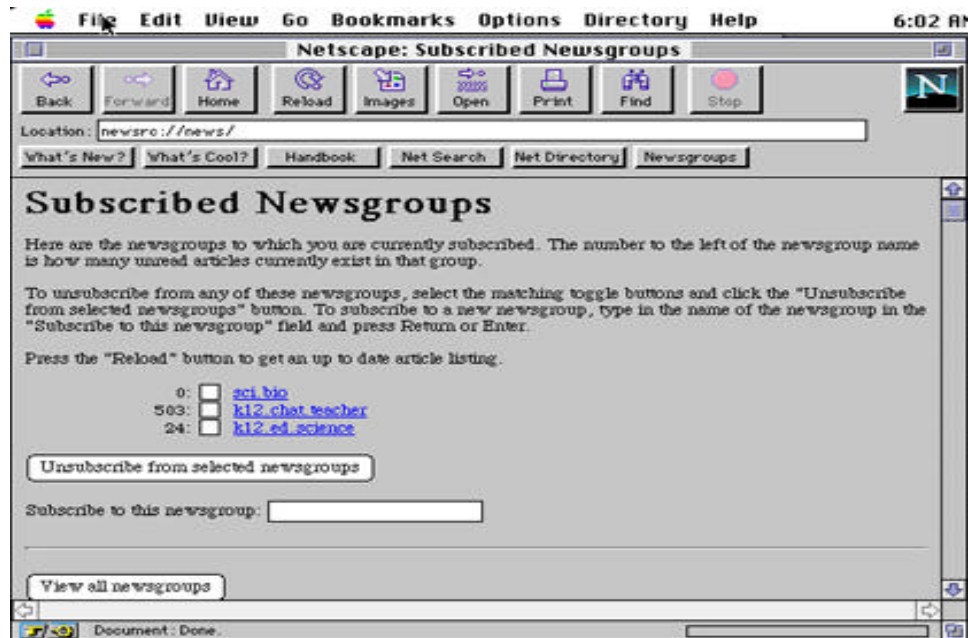
This window displays newsgroups to which the user is subscribed.
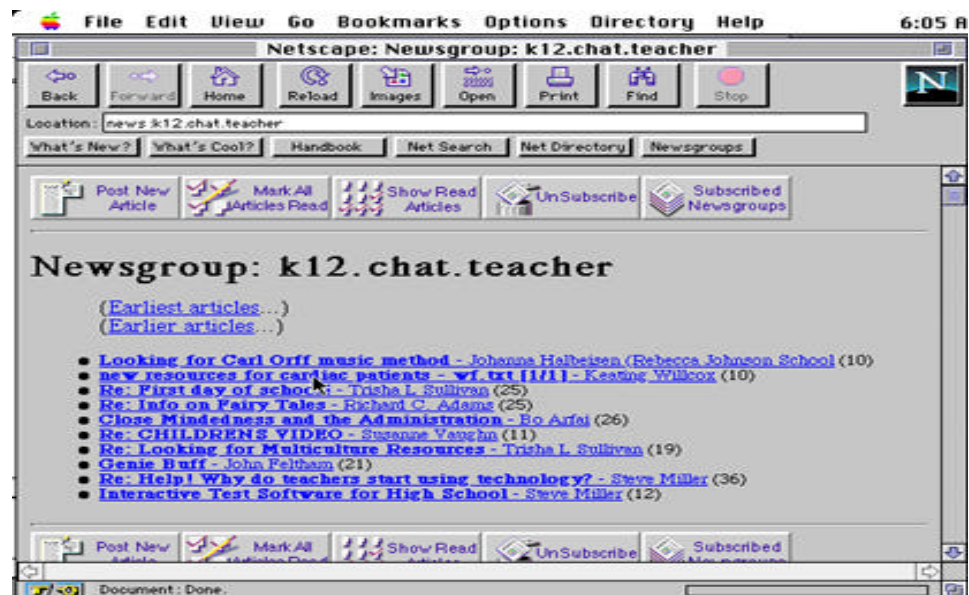
This window shows the news articles that were new to the reader since the previous download.

In the Internet workshops conducted at Dryden Flight Research Center during the summer of 1995, several teachers commented that newsgroups may not be appropriate for their students. The browser software can be set so that it does not have a news server address. If this is done the computer will not receive newsgroup postings.

The following image shows the option window that allows the user to select a news server.
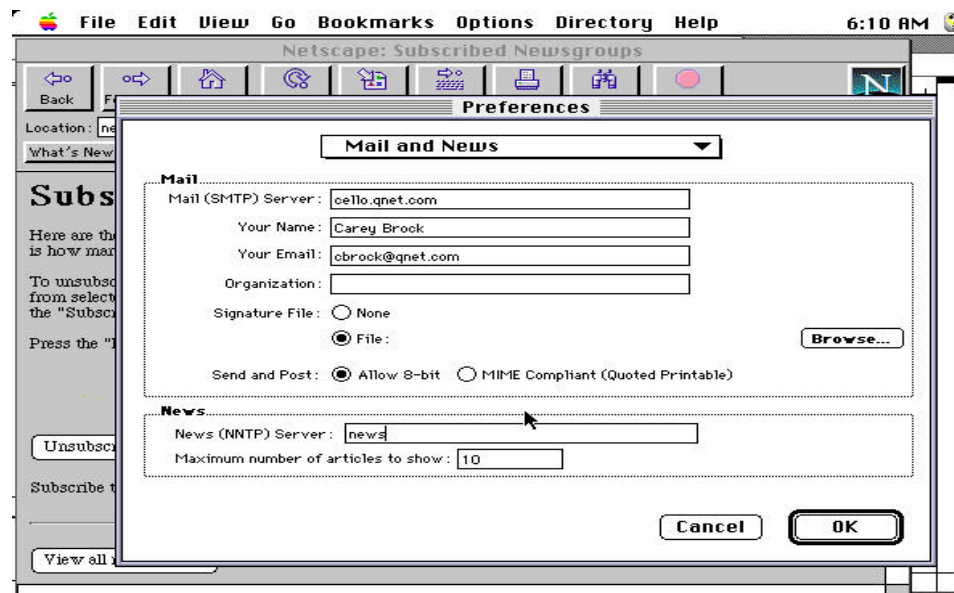
8.0 HYPERTEXT MARKUP LANGUAGE (HTML)

HyperText Markup Language (HTML) is one international standard for electronic document exchange. It is the language used to create World Wide Web documents. Commands begin with a < and end with a > . Commands in HTML are not case sensitive. Commands are usually "containers" meaning there is a beginning and an ending command. The container is information that tells the web browser (viewer) how to display the item inside the container. The item inside the container can be text, an image, sounds, etc.

HTML documents are made up of three parts: HTML, HEAD, and BODY. The <HTML> tag should be declared at the beginning of the document, and the </HTML> tag should be the end of the document. So a very short HTML document might start like this:

`<HTML> This is a basic HTML lesson.</HTML>`

When a user looks at this document through a viewer such as Netscape the only part they will see is:

`This is a basic HTML lesson.`

The next part of the document is the head tag. It encloses the title that appears at the very top of view. The title is enclosed in the head tag. That is the name of the document. The document with head and title tags would now look like this:

```
<HTML>
<HEAD>
<TITLE>
Basic HTML
</TITLE>
</HEAD>


This is a basic HTML lesson.
</HTML>
```

The next part of the document is the body. It contains the entire document that users see with their viewer. There are many tags that will determine how the document is displayed. The header tag specifies the stand out parts of the document that introduces paragraphs and anything else to which the user wishes to draw attention. The document with a body and a header tag would look like this.

```
<HTML>
<HEAD>
<TITLE>
Basic HTML
</TITLE>
</HEAD>
<BODY>

<H1> This is a basic HTML lesson.</H1>
</BODY>
</HTML>
```

The header tag H1 produces the largest type of heading. They range down to H6 which is the smallest.

The next tag is the paragraph, written as <p>. There is no need to end paragraph tag because the last paragraph automatically ends when the new paragraph begins. There are three types of lists; ordered lists <ol> and , unordered lists <ul> and , and defined lists <dl> and </dl>. Ordered lists number the items listed. Unordered lists show black bullets before each listed item. Define lists show a term with a definition indented under the term.

Links within the document need two tags. The <A HREF="#anchor name">information on screen</A> is in the document where the user will click on the link. The <A NAME="#anchor name">information on screen</A> The first tag (A HREF) points the browser at the anchor tag (A NAME).

An external link uses the tag <A HREF="file path and name">information on screen</A>. The file path and name must clearly indicate where the external file is found. The file may be another file on the same computer or it may be a file at some other site on the web.

The following shows a document source code.

```
<HTML>
<HEAD>
<TITLE>
Basic HTML
</TITLE>
</HEAD>
<BODY>

<H1> This is a basic HTML lesson.</H1>
HyperText Markup Language is the language that is used for
documents to be displayed on the WWW.  It consists of a head and a
body.  Various tags are used to control the display of information
through the browser that the viewing user may have for accessing
the WWW.
<P>
The header and paragraph tags are basic for determining the format
of the document.  Tags are also available for:
<ul>
<li>Carriage Control
<li>Horizontal Rule which is a line across the document
<li>Logical Styles such as emphasis
<li>Physical Styles such as italics, bold, etc.
<li>Lists
<li>Images
<li>Links
</ul>
<p>
HTML documents are an excellent tool for linking information.
The user may access images such as a logo of the Dryden Flight
Research Center which enabled this document to be produced.
<IMG SRC=dfrcicon.gif>

 </BODY>
</HTML>
```
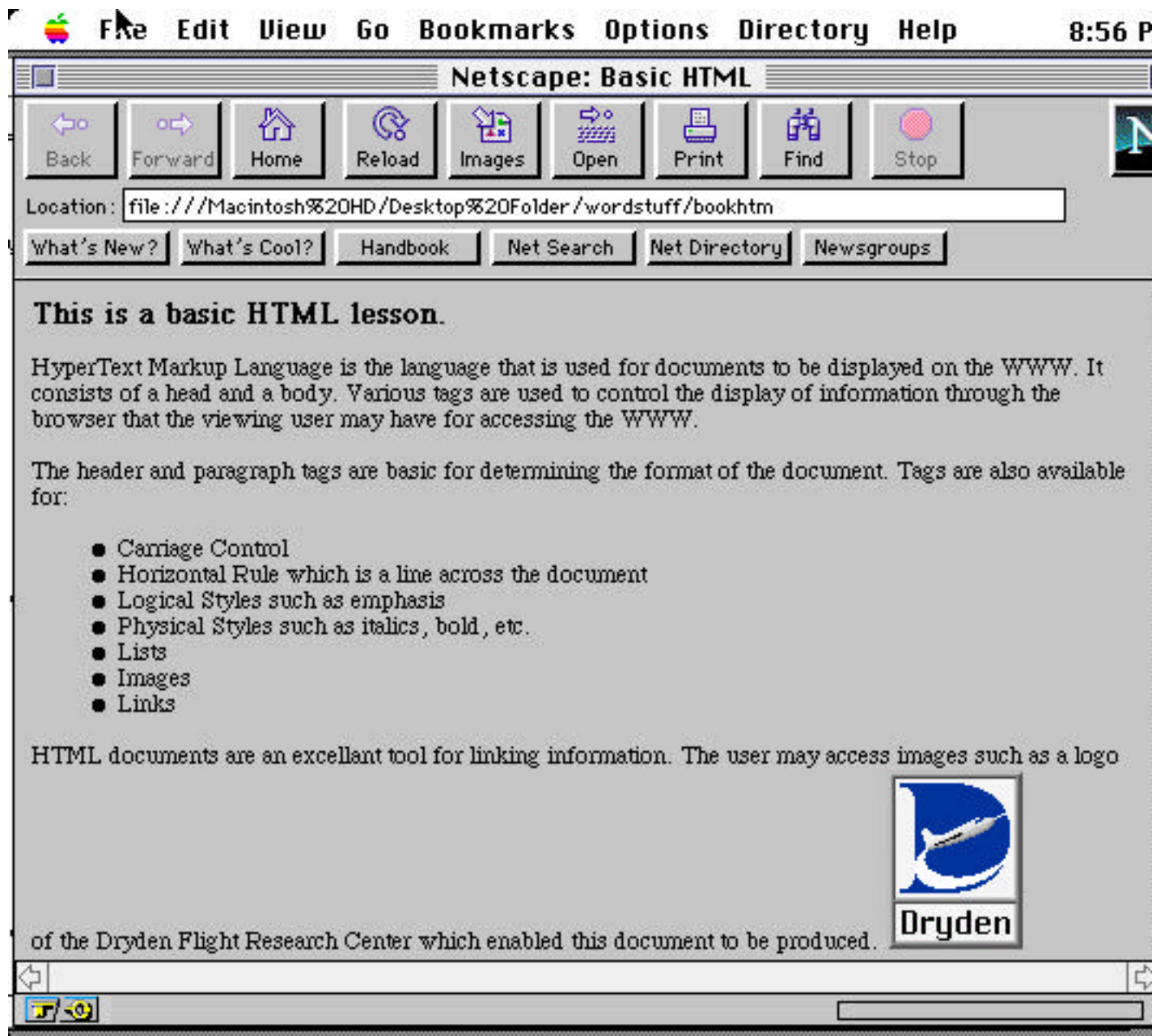
The HTML document on the previous page is displayed in the following image as seen through a browser.

File Edit View Go Bookmarks Options Directory Help 8:56 P

Netscape: Basic HTML

| Back | Forward | Home | Reload | Images | Open | Print | Find | Stop |

Location: file:///Macintosh%20HD/Desktop%20Folder/wordstuff/bookhtm

| What's New? | What's Cool? | Handbook | Net Search | Net Directory | Newsgroups |

This is a basic HTML lesson.

HyperText Markup Language is the language that is used for documents to be displayed on the WWW. It consists of a head and a body. Various tags are used to control the display of information through the browser that the viewing user may have for accessing the WWW.

The header and paragraph tags are basic for determining the format of the document. Tags are also available for:

- Carriage Control
- Horizontal Rule which is a line across the document
- Logical Styles such as emphasis
- Physical Styles such as italics, bold, etc.
- Lists
- Images
- Links

HTML documents are an excellant tool for linking information. The user may access images such as a logo

Dryden

of the Dryden Flight Research Center which enabled this document to be produced.

This handbook includes *A Beginners Guide to HTML* as appendix C. The Web site for this document is:

http://www.tbi.univie.ac.at/docs/HTMLPrimer.html

The HTML language is not difficult to learn. An HTML document can be written on a word processor and be viewed with a browser without using an Internet connection. This means that a document can be written and viewed locally. HTML documents can be excellent teaching tools because of the ease with which several documents can be linked.

9.0 CONCERNS FOR EDUCATORS

Online Education is a powerful tool for education because it allows for the connectivity and interactivity of students. Online education is empowering to the individual student because it transcends issues that filter the reception of thought. The Internet is blind to gender, race, disability or economic position. The ideas that the student puts out on an electronic media must be considered on their own merit.

Online education eliminates the problem of isolation inherent in our traditional classroom setting. Traditionally we have a teacher and 30 or 40 students. They interact with each other. For the majority of their instruction students are limited to the teacher's expertise. The students do reasonably well since teachers are better prepared now than at any time in history. However, teachers have the potential to do so much more for their students.

The teachers are also severely isolated in the sense that there is only limited time each day for interaction with other adults. The physical structure of the individual classroom makes collaboration with other teachers and classes of students difficult.

The Internet as an online education medium is a powerful tool for overcoming these difficulties. Teachers can connect with others in same subject and integrated subject areas. Students can connect with expert sources and with other students in same subject and integrated areas. Local community education can gain a global perspective not available by any other medium.

Educators and others have some concerns about the student use of the Internet. Because the Internet is an unregulated area it features information about any topic imaginable. Material that average American parents may consider objectionable for children is available in the Internet.

The education system must establish a policy for Internet use at their site. A proactive acceptable use policy on Internet use in an education facility will help to prevent serious problems. This policy should include a permission slip signed by parents (as you would do for any off-site field trip). The permission slip should provide an alternative educational experience for those students whose parents do not want them exposed to the Internet. These alternative experiences could include programs run on CD-ROM for example.

The Internet use policy should also include an acceptable use statement signed by students. The student agreement should have a loss of privilege clause for those who fail to act in a responsible manner.

The education site may also block access to certain sites. This on-site filter is a more sure method of preventing student access to information that is not acceptable for students. However, this block to certain sites will not eliminate the possibility of a student finding information that they or their parents may find objectionable.

Additional action can be taken by sending email to sites requesting that they not send objectionable files to your site.   The school site also can help servers keep objectionable material out of school by the using the (.k12) name. Servers generally do not send such material to this level of school but they do send it to the college level which uses the (.edu) site name.

No process for filtering information is going to be infallible. However, the above steps would indicate "prudent care" in policy. This means that the education site/personnel took reasonable steps to control student access to information and at the least would serve to limit responsibility.

9.1 Students' Responsibility

Students should be informed of their Internet responsibilities before they ever sign on. Some of these include:

1. Be polite to the people who read your messages. Don't say things to hurt other people's feelings.

2. The same rules apply on the Internet as we have in class: respect yourself and others.

3. Respect other people's time and the space a message takes on the Internet. Read groups carefully before you reply so that you can do so intelligently. Lurk before your leap.

4. Take pride in your Internet appearance. Check grammar and spelling. Make sure your message makes sense.

5. Don't take part in flame wars. That means don't send messages back and forth pointing out how stupid someone else is on the net.

6. Forgive other people's mistakes and share your knowledge.

7. Good manners and good taste are always in style.

8. Illegal activity (buying and selling drugs for example) is just as serious on the Internet as it is anywhere else.

Student users of the Internet must understand that they are representing themselves and their school.

9.2 Parents' Responsibilities

When parents are informed that their child has access to the Internet, they should also be told what the Internet is and is not. They must be told that a trip on the Internet is like any other field trip. The student will see things that are new and different from everyday experience. Because the Internet is an area for productive people to freely exchange ideas, it is a source of information on every topic imaginable. As in all other human endeavor, most of this free flow of ideas is for positive work and for the benefit of people. Because this information is not regulated there may be information that is offensive to some people.

In the case of school children, every reasonable effort should be made to prevent the child from gaining access to material that parents could consider objectionable. Both parents and students should be informed that if a student is able to purposefully navigate around the various filters that the education site has installed, then that student will lose access privileges.

Parents and/or students should be given an option of an assignment that does not use the Internet. This can include a library research project or a CD-Rom research project. The important point here is to make this project as meaningful and fun as the actual Internet project. This provides a means for those people with a strong need to shelter their children to do so without feeling that their child will be denied a quality education.

9.3 Acceptable Use Policy

An acceptable use policy modeled after the Los Angeles Unified School district Acceptable Use Policy follows:

Computers in schools are used by productive people for teaching and learning. The Internet allows people to interact with hundreds of thousands of computers and networks. Computers and the Internet are to be used in a responsible, efficient, ethical and legal manner. Failure to follow these guidelines will result in loss of access privileges.

Following are some unacceptable uses of the computer and/or Internet.

   * Violating the conditions of California Education Code dealing with students' rights to privacy.
   * Using profanity, obscenity, or other language that may be offensive to other users.
   * Reposting (forwarding) personal communication without the author's prior consent.
   * Copying commercial software in violation of copyright laws.
   * Using the network for financial gain, for commercial activity or for any illegal activity.

The person to whom an account is issued is responsible at all times for its proper use.

   * Users should change their password frequently.
   * Users must not give a password to another user.

Because access to the Internet provides connections to other computer systems located all over the world, users (and parents of users who are students) must understand that neither the school district or any district staff member controls the content of the information available on these other systems. Some of the information available is controversial and sometimes may be offensive. The school district does not condone the use of such materials.

Acceptable use policy rules and regulations:

   * The Internet account is free to users.
   * It is a privilege to receive an Internet address.
   * A user must display responsible use of the Internet to retain access privileges.

A responsible user may:

  * Use the Internet to research assigned classroom projects.
  * Use the Internet to send electronic mail (email) to other users.
  * Use the Internet to explore other computer systems.

A responsible user:

  * May NOT use the Internet for any illegal purpose.
  * May NOT use impolite or abusive language.
  * May NOT violate the rules of common sense or etiquette.
  * May NOT change computer files that do not belong to the user.
  * May NOT send or receive copyrighted material without permission.
  * May NOT share his or her password with anyone.

Note that system operators will have access to all user accounts, including email.

_____

By signing you acknowledge that you:

   * Understand the rules and regulations of the Acceptable Use Policy.
   * Realize that, if the rules are violated, your account will be canceled.
   * Understand there will be no second chances.

STUDENT SIGNATURE AND PARENTAL CONSENT FORM

(Note: If a student is too young to read the Acceptable Use Policy, please
provide assistance. The purpose of the Acceptable Use Policy is to provide
information, not to exclude anyone.)

_____ _____

Student last name Student first name

_____

School name

_____

Teacher name

_____/_____/_____

I have read the Acceptable Use Policy. If I follow the rules I may keep my account. If I do
not follow the rules in the Acceptable Use Policy, I understand that my network account
will be taken away from me. I understand that there will be no second chances.

_____ _____/_____/_____

Student signature, date

PARENT CONSENT

I have read the Acceptable Use Policy. I understand that the Internet is a world-wide group of hundreds of thousands of computer networks. I know that the School district does not control the content of these Internet networks. When using the Internet, I realize that students may read material that I might consider controversial or offensive. The School district has my permission to give an Internet account to my child. I understand that my child may keep this address as long as the procedures described in the Acceptable Use Policy are followed.

_____ _____/_____/_____

Parent or guardian signature, date

10.0 CONNECTING TO THE INTERNET

Many users find it helpful to have an Internet access connection at their home. For a private connection the user needs a computer, modem, and a telephone line. The user will also want a local calling number for Internet access if possible. This writer found it most helpful to have two phone lines; one for the computer and fax machine the other for voice.

10.1 Call Waiting

If the user has the call waiting feature as a telephone service then call waiting must be disrupted when the computer and modem use the line.   For the writer's phone service, setting the modem to dial *70 followed by the rest of the phone number disrupted call waiting for the duration of that call. The call waiting service was reactivated as soon as the modem hung up.

10.2 Modem Speed

The modem is one determining factor in the type of connection that a user will find practical. A 28.8Kbaud modem makes it practical to use a graphical browser with a dial-in access connection. Of course the user needs to be connected to an Internet access provider that is also using 28.8Kbaud modems to achieve the benefits of that speed. The information will flow at the speed of the slowest system. A modem speed of 14.4 Kbaud at either end is acceptable, but barely so, for graphical browser use.

If the user has a slower connection, than a shell account will be more practical. The shell account will allow the use of a text based browser such as LYNX. This will provide access to the information but will not include the color and graphics.

10.3 Connection

The type of connection is the second factor that determines what will be practical for the user. A PPP (Point to Point Protocol) or a SLIP (Serial Line Internet Protocol) account is necessary to run a graphical browser. The user must have PPP or SLIP software on their computer and the dial-in access provider must have PPP or SLIP server software on the server computer. Text browsers only require basic communication software for the user and for the server.

10.4 Connection--Dial-in

With dial-in Internet access the user is downloading information from the Internet, through the access computer, directly to the user's computer. Dial-in access can be provided from any point that has a dedicated Internet connection such as universities and government organizations.

Commercial dial-in access Internet providers are businesses that have a multitasking computer (UNIX) and many modems. They sell Internet access for a fee each month. For example, it presently costs this writer $21.95 for a PPP account with a commercial service. Both systems use 28.8 modems. The writer uses a graphical browser (Netscape) and has full access to all of the resources on the Internet.

10.5 Connection--Dial-up

Dial-up connections with online services are different from dial-in Internet access. Dial-up connections are also run by commercial services. Some of the well known services are AOL (America OnLine), CompuServe, Prodigy, and Delphi. These services provide access to some Internet resources.

The user must use the interface that the service provides. That means if the services provides WWW access the user will use the browser that the online service provides. Dial-up connections have been economical sources for some Internet resources. Users who only need email access, discussion groups, and an occasional information search will find these services adequate and convenient.

Additional information regarding Internet connection can be found in most of the numerous books available in the computer section of the book store and from computer and/or Internet magazines. The user may try several services before finding the service that fits the user's purpose at the most reasonable cost. Most services allow users to try the service before being charged the monthly fee.